DEPARTMENTS OF THE ARMY AND THE AIR FORCE
MASSACHUSETTS NATIONAL GUARD
OFFICE OF THE ADJUTANT GENERAL
50 MAPLE STREET
MILFORD, MA 01757-3604

REPLY TO
ATTENTION OF:

June 13, 2007

Director, Environmental Affairs

EPA-New England, Region 1
1 Congress Street, Suite 1100
Boston, MA
02114-2023

Dear Ms. Lynne Jennings,

The National Guard Bureau (NGB) and the Massachusetts National Guard (MANG) petition EPA Region 1 for modification of Administrative Order 2 (AO 2) Scope of Work (SOW) issued in April 1997 in accordance with AO 2's SOW, paragraph 125. This petition specifically requests that Section II.A.1.a (page 30) of the AO2 SOW, which is the paragraph prohibiting "[a]ll firing of lead ammunition or other 'live' ammunition at small arms ranges at or near the Training Range and Impact Area," be modified to allow the firing of lead ammunition at Tango Range.

The requested resumption of live fire training is necessary for both military readiness and force protection reasons. A prompt return to firing lead ammunition at Tango Range is a critical step in protecting the lives of the MANG's military personnel who must train as they fight. Both MA Army and Air National Guard personnel are being required to deploy to Iraq and elsewhere in support of the Global War on Terrorism on a frequent and regular basis. Small arms qualification is a mandatory core capability for both the Army and Air National Guard soldiers and an essential requirement for troop deployment and combat readiness. It is critical that all Guard personnel be qualified on their appropriate weapons system, including small arms, prior to deployment.

In order to comply with new Department of Defense and Department of the Army guidance to the National Guard to reduce deployment time for the soldier from about 18 months down to approximately 12 months, each State must maximize the allotted training time it has prior to unit deployment. In order for Massachusetts and the other New England states to accomplish this, the facilities each state has must be maximized for unit training. Thus, the Camp Edwards small arms training ranges are a critical training component across New England. The Camp Edwards small arms ranges and the other training venues at the Massachusetts Military Reservation (MMR) combine to make the MMR a focal point to train soldiers on a multitude of critical warfighting tasks and then be certified in those tasks prior to deployment. By maximizing the MMR-based

venues, especially the small arms ranges, the time away from home for the soldier is reduced and at the same time the soldier is receiving the required training needed to survive hostile combat situations and to properly execute the Guard's assigned missions in the Global War on Terror.

The Guard also recognizes that it has both legal and societal obligations to conduct the above-described training activities in a manner that protects MMR resources and complies with applicable environmental requirements. As discussed below, a modification to allow live firing at Tango Range, subject to Best Management Practices, is appropriate from an environmental and natural resource protection perspective. As discussed below, the petitioners have developed and implemented management actions and tools necessary to properly manage the future release or threat of release of lead into the environment and to protect the health of current and potential users of the Sagamore Lens of the Cape Cod Aquifer.

As per AO3, the Impact Area Groundwater Study Program began environmental investigations at Camp Edwards in 1997. Preliminary investigations of the small arms ranges found elevated levels of some metals and propellant compounds at many of the ranges. The initial investigation of Tango Range in 2002 detected elevated levels of lead near the firing line. The investigation was expanded in 2006 and 2007 to include more detailed investigation of soil conditions across the entire range. Elevated levels of lead and nitroglycerin (NG) were detected near the firing line. Groundwater wells were installed downgradient of the range and sampled to determine if metals or propellants had leached to the groundwater. The findings are described in detail in the Draft Final T Range Soil and Groundwater Investigation Report. No significant risk due to direct exposure was identified in soil or groundwater at Tango Range for the current and foreseeable site uses. A potential for migration of NG from soil at the firing line to groundwater may exist based on preliminary evaluations, but further evaluation of the transport of NG under site specific conditions would be needed to determine the potential impact. To date, NG has not been detected in the groundwater at Tango Range.

As a preventative measure, the MANG is proposing to excavate soil impacted with NG at the firing line at Tango Range prior to returning to lead firing. This will be conducted in accordance with the Tango Range PROJECT NOTE TITLED: T RANGE SITE PREPARATION PLAN. This project will be complete prior to commencement of lead firing tentatively scheduled for mid-July (pending approval).

The IAGWSP will continue to evaluate, along with the EPA, the potential for NG and other contaminants to migrate to groundwater. This will be conducted in conjunction with the continuing environmental investigations of the remaining small arms ranges at Camp Edwards. The scope of those investigations will be proposed in a work plan that is currently scheduled to be

complete in late 2007 and the investigations will likely be conducted in early 2008.

As per the SOW and AO2, the small arms range berms were processed to remove much of the lead. Additionally, Maectite was used to bind particles that were too small to be picked up in the removal process. Subsequently, Tango Range had a 15-lane munitions-capturing trap system, known as STAPP, installed that provides for capture of all lead ammunition rounds shot into it. The STAPP system is equipped with a self-sealing membrane that closes after the lead munitions round is shot into it, thus minimizing the potential for water to get into the trap system. In the event water enters the trap system, STAPP utilizes a collection tube to retain any seepage of water into the system so it can be properly extracted and handled appropriately. Further, guidance for the operation and maintenance of the Tango Range has also been developed as part of the MANG's T Range Best Management Practices: Operations, Maintenance, and Monitoring Plan.

Additional support of the appropriateness of a return to firing lead ammunition at Tango Range is found in a recent study, shared with EPA, the Environmental Management Commission, and the Massachusetts Department of Environmental Protection (MassDEP). The study concluded that the use of lead ammunition does not present a threat of harm to the public or the environment if properly managed. As summarized below, the study supports the position that if properly managed, the use of lead ammunition is appropriate in that it would not present an imminent and substantial endangerment to the health of persons.

a. During the summer of 2006 the MANG contracted the US Army Cold Region Research Engineering Laboratory (CRREL) to conduct a Lead Assessment Study for the small arms training ranges at Camp Edwards, MA. The purpose of the study was to review and evaluate relevant existing information on lead mobility to help determine what environmentally protective steps the MANG could take prior to resuming live fire training with lead ammunition to ensure that training was environmentally compatible.

b. The MANG coordinated the versions of the draft findings of the Study with the Small Arms Working Group (SAR WG). The SAR WG consists of members from the MANG, MassDEP, EPA, EMC, and the Impact Area Groundwater Study Program. The Study was finalized in May 2007 and the key elements of the Study are reflected in the following conclusions and assessments:

- Lead has not contaminated the groundwater in any significant way.
    - The presence of lead plumes has not been identified.
    - There is only one groundwater monitoring well (Monitoring Well – 72), associated with the small arms ranges with a single low lead detection.

- There are two main reasons for this conclusion:
  - The geochemistry of the soil serves to retard lead migration.
  - The depth to groundwater is deep – there is a large volume of soil that acts as an absorbent.

- While lead is not immobile, the models predict it will take anywhere from a few hundred years to over a 1000 years for small arms-related lead that is not managed to reach groundwater.

- Based on these findings, pollution prevention measures make sense and are appropriate for the following reasons:
  - Pollution prevention measures address the inherent uncertainties associated with using models and provide additional assurance that public health and the environment will not be adversely impacted by the resumption of firing.
  - Pollution prevention measures provide additional assurance that soil lead concentrations will not exceed the soil's adsorbant capacity.

Attached to this petition are the referenced documents that have been reviewed and accepted by the Small Arms Working Group.

a. The Impact Area Groundwater Study Program's Draft Final T Range Soil and Groundwater Investigation Report. The results of this investigation were used to determine the appropriate best management practices to adopt for operation of the range.

b. The Massachusetts National Guard's T Range Site Preparation Plan. This outlines the excavation of soil impacted with nitroglycerin at the firing line at tango range prior to returning to lead firing.

c. The MANG's Lead Assessment Study, which reviewed and evaluated relevant existing information on lead mobility with respect to small arms ranges and Camp Edwards.

d. MANG's – T Range Best Management Practices: Operations, Maintenance, and Monitoring Plan that identifies the operations and maintenance Best Management Practices for managing the use of lead ammunition on Tango Range utilizing the STAPP capture system.

The MANG has requested sufficient funds in its annual operations and maintenance budget to sustain proper operation and maintenance of the STAPP system at Tango Range, as identified in the T Range Best Management Practices: Operations, Maintenance, and Monitoring Plan.

The MANG is requesting an interim approval to resume lead firing at the Tango Range for the period from July 2007 through December 2008. This period will enable stakeholders to assess the completeness and viability of the Tango Range management plan. If, as anticipated, sampling results reflect that the BMPs and management plan are functioning effectively to protect the groundwater resource, the MANG will request that EPA permanently lift the suspension on the use of lead ammunition on Tango Range and that future range operations be monitored under the Environmental Management Commission.

Thank you for your continued cooperation and attention to these very important issues. Should you have any questions please feel free to contact me or COL Bill FitzPatrick at any time.

Sincerely,

Shawn Cody, REM
Director Environmental Affairs
Massachusetts Army National Guard
Joint Force Headquarters

4 Attachments

1. Lead Assessment Report
2. T Range Best Management Practices: Operations, Maintenance, and Monitoring Plan
3. T Range Soil and Groundwater Investigation Report
4. Project Note, T Range Site Preparation Plan